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A

HISTORICAL SKETCH

OF

SURGERY,

FROM THE REVIVAL OF LITERATURE, TO THE END OF THE SEVENTEENTH CENTURY.

Being an Introductory Lecture to a Course on Surgery,

IN GENEVA MEDICAL COLLEGE, N. Y.

SURGEON GEN'LS 218. LIBRARY

"Oh, Time! the beautifier of the dead,
Adorner of the ruin; comforter
And only healer when the heart hath bled—
Time! the corrector where our judgments err,
The test of truth, love,—sole philosopher,
For all beside are sophists, from thy thrift,
Which never loses though it doth defer—
Time, the avenger! unto thee I lift
My hands, and eyes, and heart, and crave of thee a gift."
[CHILDE HAROLD.

BY JAMES BRYAN, M. D.

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CORRESPONDENCE.

GENEVA, May 31st, 1851.

PROF. JAMES BRYAN:—

DEAR SIR,—

At a meeting of the Medical Class, held this day, E. A. KNAPP was called to the Chair, J. W. BLACK, Secretary. The undersigned were appointed a Committee, to request a copy of your able introductory address, for publication.

Believing that it would not only be instructive to the Class, but gratifying to the profession generally, we respectfully submit the request.

Very truly yours,

B. T. KNEELAND,
D. SCOTT PARTRIDGE,
HORACE C. AVERY,
S. E. SHATTUCK,
JAMES N. MOTT, *Committee.*

TO MESSRS. KNEELAND, PARTRIDGE, AVERY, and al.—

GENTLEMEN,—

Your note of the 31st ult. is before me. I feel myself highly flattered by the request of the Class, communicated through you, for a copy of my Introductory Address "for publication."

Please to accept for yourselves individually, Committee and Class, my sincere regards, and with them the manuscript of my Lecture.

Very respectfully and truly yours,

JAMES BRYAN.

Geneva Hotel, June 2d, 1851.

ADDRESS.

"The period of the revival of letters in Christendom, (remarks the learned Dr. Good,) is in many respects one of the most brilliant eras in human history. Without the intervention of a miracle we behold a flood of noonday bursting all at once over every quarter of the horizon, and dissipating the darkness of a thousand years; we behold mankind in almost every quarter of Europe, from the Carpathian mountains, to the Pillars of Hercules, from the Tiber to the Vistula, waking as from a profound sleep to a life of activity and bold adventure; ignorance falling prostrate before advancing knowledge; brutality and barbarism giving way to science and polite letters; vice and anarchy to order and moral conduct; and idolatry, hypocrisy and superstition to the pure simplicity of Christian truth."—"*Book of Nature*," *Lecture XIII.*

We need not here dwell upon the great inventions and discoveries that characterize this period—suffice it to say, that copper engraving, printing with movable types, the mariner's compass, with the discovery of the American Continent, and the doubling of the Cape of Good Hope, were among the wonders of the time. The literature of the Greeks which had been buried, first in the earth, then in the rubbish of Arabian Commentators, was dug up and subjected to close scrutiny and accurate study. The ancient records were restored to their original purity, and by means of the press, distributed over all Europe. The priesthood led in the march of improvement, as far at least as literature was concerned; and medicine, which had returned to the cloister and the temple, was again "brought out," and introduced to the world, to stand or fall upon her own merits. Hippocrates had

in earlier times divorced her from divinity; but the darkness of the middle ages presented to her then juvenile mind too great a temptation, and she fell back again into the open arms of the priesthood.

The first step towards her second divorce, was made in 1163, by the celebrated council of Tours; which prohibited the clergy from undertaking any bloody operations.

About this period flourished Brunus, an Italian physician and surgeon of considerable eminence, born in Calabria, and said to have been intimate with Petrarch. He published at Padua in the year 1252, a collection of surgery, more copious than any which preceded it. (Hamilton's History, vol. 1, page 358.) Willis of Salicetum, is said to have been a writer of original thought; in the language of Guido de Chauliaco, a "powerful man," in medicine and surgery. He was professor at Verona, and died about 1280, according to Lindanus. His minute description of surgical operations, particularly those for stone, prove him to have been practically acquainted with surgery. He is said to have been the first modern to describe the disease called Crusta Lactea, and the best mode of curing it. He very judiciously cautions us against too rashly opening deep-seated tumors, with the idea that they contain pus, lest we make an incision into an aneurism instead of an abscess. His remarks on Sarcocele, and other diseases of the testicle, are in many points equal to those of the celebrated Pott, who flourished five centuries after him.

Lanfranc, who was one of the most distinguished surgeons of the latter half of the thirteenth century, prosecuted his studies both in Leyden and Paris. His works, though voluminous, are chiefly copied from Gulielmus de Salicetum. He was a surgeon who, as far as possible, discouraged the use of the knife, the caustic, and other violent measures, depending in a great measure upon the use of medicines. No operation, he says, should be performed for the stone, because

he had found a mode of curing it without operation. So of the trephine and operations for strangulated hernia, all of which he condemns. In the latter disease the knife and the cautery were the ordinary recources in his day.

Guy de Chauliac, about the year 1363, is said to have reduced the art of surgery to a regular system, when he had himself attained to a very advanced age. Fallopius compares his writings to those of Hippocrates, and speaks in the highest terms of Guy de Chauliac as the revivor of surgical and anatomical science.

He was Professor at Montpelier, practiced many years at Avignon, being physician to Pope Clement VI. Besides giving a very useful catalogue of the surgeons who had flourished previous to his day, he accompanied the works of each with judicious criticisms indicative of his estimation of the value of these works. He also gives us an account of the different sects or classes of surgeons of his day, of which he says there were five. The first was led by Roger Roland, and the four masters; these applied cataplasms indiscriminately to every species of wound and ulcers. Brunus and Theodoric were the leaders of the second class, who used only wine in similar cases. The third class, with William of Saliceto and Lanfranc at their head, adopted a kind of middle course between these two, and treated wounds with emollient ointments and plasters. While the fourth sect, composed of the Germans, mostly military surgeons, used promiscuously oils, wool, potions and charms. The fifth class, composed principally of ignorant practicioners and silly women, resorted on all occasions to the saints, praised each others writings continually, and followed each other, in the language of Hamilton, in one undeviating track, like Cranes.

In the works of Guy de Chauliac will be found accounts of inguinal and intestinal hernia, the Caesarean operation, amputation, the plague of 1358, which

depopulated the whole world in a most unprecedented manner. Like the cholera in more modern times, this epidemic began in India, and is said to have carried off one fourth of the inhabitants of the entire globe. Guido himself, while residing in Avignon, was very near falling a victim to the disease, but was relieved by the formation of a suppurating bubo. The works of this distinguished surgeon are well worthy the examination of the medical literary scholar.

The greatest English contemporary of Guy de Chauliac, was the celebrated John Arden, who was born about 1320. He practiced in Newark at the time the great epidemic called the plague, visited this town, in 1349. His reputation rapidly spread over the country after this occurrence, and he, in 1370, removed to London, there to enjoy a wider field for his talents. He is said to have been a man of keen perceptions, indomitable industry, and strictly honorable in all his dealings. A large volume on medicine and surgery together with numerous manuscripts, are all that remain of his works, few of which have ever been printed. Ardem may with great propriety be considered the revivor of surgery in England, as Guy de Chauliac was on the continent. "He writes, (says Hamilton,) with an air of great simplicity; and, although he blends a considerable proportion of quackery and superstition with his accounts, was deservedly regarded as one of the best surgeons of his day." He was remarkably successful in his treatment of fistula in ano, and enumerates the several modes of treatment in detail; not only those in common use, but others invented by himself. He has written largely on the nature, uses and modes of administering enemata, which seems to have been quite a new mode of surgical practice in his day. He avers that the exhibition of an enema requires great care and dexterity, and that he had been very successful in relieving and curing many cases of cholic, intestinal obstructions, &c., &c., gain-

ing by the operation "both wealth and reputation in places the most widely apart."

"It is to this epoch that the true separation of medicine from surgery must be referred. The latter was abandoned to the laity, the generality of whom, in those ages of barbarism were entirely destitute of education. The priests, however, still retained that portion of the art which abstained from the effusion of blood. Roger Rolandus, Bruno, Guilielmus de Salicetum, Lanfranc, Gordon, and Guy de Chauliac, confined themselves to commentaries on the Arabians; and if the latter author be excepted, they all disgraced surgery by reducing it nearly to the mere business of applying ointments and plasters. Guy de Chauliac, however, the last of the Arabians, is to be honorably excluded from such animadversion. His work, written at Avignon, in 1363, in the pontificate of Urban the fifth, to whom he was physician, continued to be, for a long while, the only classical book in the schools. It may be observed, that as he imitated in every respect the other Arabian physicians, and like them, thought that it did not become a priest to deviate from the austerity of his profession, he has passed over in silence the diseases of women."—(Cooper's Surgery.) From this period up to that of Pope Leo X., or the beginning of the sixteenth century, (Pope Leo having reigned from 1513 to 1521,) we have few distinguished names in our profession. The school at Salernum, although founded about the middle of the seventh century, produced no names of note until several centuries after.

This was almost the only school of medicine in Europe up to the 12th century, and attained, for the time in which it flourished, a very great reputation. It was established in a monastery of Benedictine Monks, and became so famous that several crowned heads are said to have visited it for medical advice. The great patron of the school in its palmy days was Frederick

II, Emperor of the west, who was himself a man of profound learning. In the year 1225 he laid down the following statutes for the school. The number of Professors should be ten, whose seniority was regulated by the dates of their appointments. The examination for degrees was conducted with the greatest strictness, and the works in which the candidates were examined as to their proficiency in their studies, were the Therapeutics of Galen, the beginning of the first canon of Avicenna, or the Aphorisms of Hippocrates. Candidates for the degree of Doctor in Medicine, were required to have attained the age of twenty-one, and to produce testimonials of having studied medicine under competent Professors during the space of seven years. For admission among the body of Surgeons, it was necessary to have devoted twelve months at least to anatomical pursuits. The candidate was required to take, on being admitted, an oath of conformity with the laws and usages of the college, to refuse all fees or remuneration for attendance on the poor, and not to enter into any lucrative compact with a druggist or apothecary. Having sworn faithfully to observe all these regulations, a book was placed in his hand, a ring upon his finger, and a laurel crown upon his head, and he was then dismissed with a kiss of Peace."—Hamilton's History of Medicine, Vol. 1, page 327, London 1831.

The truth is the dark ages produced absolutely nothing for medicine. The practice was divided between the Priest and the Barber; the latter performing the manual part, and the former performing at once the functions of priest and physician. The universal ignorance of the people, with the theoretical or speculative character of the education given to the better classes, unfitted both for the prosecution of science on the only true method, that of observation and induction. The ipse dixit of Galen and Aristotle in medicine and philosophy was the end of controversy. From this point heresy began; and men were subjec-

ted to the contempt and derision of their fellows, for merely pretending to advance ideas not found in these authorities. Religion was in the same predicament; and it was not until the period above indicated, that men had courage enough to throw off the incubus which weighed down their nobler natures.

As Surgery must ever be based upon Anatomy, Physiology and Pathology, and can never go beyond the boundaries set by these branches of science, so the progress of these must be studied in order to appreciate both the history and advancement of Surgery.

The first great name which meets the historian's eye and pen, devoted to anatomical pursuits in the sixteenth century is that of Vesalius. This author is considered by all writers as the founder of modern anatomical science. Previous to him, the name of Galen was the only one quoted. Vesalius proved beyond question that the anatomy taught by Galen was defective and very imperfect. Indeed, strong doubts are entertained whether Galen ever actually dissected the human subject. It is supposed that he obtained his practical information from the dissection of apes.

"Descended from a family which had abounded with physicians," Vesalius enjoyed peculiar privileges and opportunities for the acquisition of his profession. His great-grandfather, John, was physician to Mary of Burgundy, first wife of Maximilian I., and went and settled at Louvain when he was old. Everard, his grandfather, wrote commentaries upon the books of Rhases, and upon the Aphorisms of Hippocrates. His father, Andreas, was apothecary to the Emperor Charles V. Vesalius himself was born in Brussels, in 1512, or 1514. He was instructed in the languages and philosophy at Louvain, where he early evinced his preference for anatomical and similar studies, by dissecting rats, moles, dogs and cats.

After leaving Louvain he went to Paris and studied medicine under Silvius, the celebrated anatomist, whose name is still connected with the structure of

the brain. With this celebrated master he studied anatomy with great diligence, this study being at that time very little prosecuted. Indeed, dissecting had long been discontinued, as an unlawful and impious practice. The Emperor Charles V., held a consultation of divines at Salamanca, "to know whether, in good conscience, a human body might be dissected, for the sake of comprehending its structure. It is a curious fact, but one I believe well authenticated, that Vesalius wrote his celebrated work on anatomy, ("De humani Corporis Fabrica,") at the early age of eighteen years. So soon had he become a proficient in the science of which he was henceforth denominated the "Father." After this, he returned to Louvain and commenced teaching anatomy, whence he travelled into Italy, and read lectures and made anatominal demonstrations at Pisa, Bologna, and several other cities.

In 1539 he was made, by the republic of Venice. Professor of Anatomy in the University of Padua, where he taught his branch during seven years. He was afterwards made physician, first to Charles V., and afterwards to Phillip II. of Spain, in whose courts he obtained a prodigious reputation for skill and sagacity in his profession. He is said to have predicted the death of a nobleman so accurately as to have stated not only the day, but the hour of its occurrence. The nobleman, it is said, impressed with the great reputation of Vesalius, believed him implicitly, made a feast, invited his friends, gave them presents, and died at the time predicted. Whether this story be true or not, it shows the great reputation of the man who should be the subject of such tales. His skill in anatomy was equal to his medical reputation. Thuanus relates of him, that being in Paris, he undertook to mention the name of any bone that might be placed in his hand, however small, with his eyes bound up. A skeleton prepared by his own hands, and presented to the University at Basil, was still there in 1799. In reference to his death there is much doubt, which my

distinguished friend, Professor Gibson, of the University of Pennsylvania, has been quite unable to dispel, although the pretty story that he picked up in Europe, in 1847, about the murder of a suiter of his wife, the shipwreck and his final retirement to a monastery, there to repent of his sins, is very romantic and withal amusing. That he visited the holy land on a pilgrimage of some kind, as was common in those days, is well authenticated; that he opened a Spanish nobleman, and found the heart still beating, for which act the inquisition sentenced him to death, but commuted the sentence at the intercession of his friend, King Phillip, to a pilgrimage, is very generally believed; but whether in the shipwreck which he is said to have suffered, (on his return to Venice, to fill the chair vacated by the death of Fallopius,) he was thrown upon the Island of Zante, "and there," in language of Hutchinson, "perished miserably, dying of hunger and cold," or returned privately to Venice and retired to a monastery, is not known.

Thus gloriously, for our profession, began the sixteenth century, whose history alone, if properly written, would require volumes.

The next individual we shall notice, was born about the same time as Vesalius, or in 1509. Ambrose Parê was a Hugernot, and one of the earliest converts to protestanism. The Genius exhibited by the father of Modern Anatomy, was equaled by him who with great propriety has been denominated the father of Surgery. The independent spirit of the age, was fully developed in the distinguished Surgeon under consideration; and though connected officially with one of the most unrelenting despots and blood-stained monarchs of any age, yet he retained not only his freedom of conscience as a man, and a Christian, but his life was preserved by the King himself, at a time when thousands were murdered in cold blood for their religious opinions.

"Surgeon to King Henry II, Francis II, Charles IX,

and Henry III, of France, Pare practiced his profession in various places, followed the French armies into Italy, and acquired such esteem, that his mere presence in a beseiged town was enough to reanimate the troops employed for its defence."

Pare is said to have invented or revived the use of the ligature. To Celsus is due doubtless the credit of recommending when the other ordinary means fail, the ligature. These means were styptics, caustic and pressure. The invention of gun powder prior to the age of Parê, with the consequent use of fire arms in war, during his military career, gave him ample opportunity to study gun-shot wounds. He indeed may be said to be the chief authority on this subject until we arrive at the period when John Hunter, lived and wrote upon it. Amputations, which were treated by Pare's predecessors by placing pitch plasters very tightly around the limb, and causing it to slough off at a joint, were performed with the knife and saw. The ligature was thus of the first importance, in arresting hemorrhage. It is said however that the jealously and unrelenting hostility of his contemporaries were such, as to cause him to hunt up authority from Galen and others for the use of the ligature.

"He was the first to use the twisted suture in hare-lip, and similar wounds, copying the mode of application from the manner in which the ladies and tailors of the day wound the thread around the needle, and thus carried both safely in their cuffs or caps." (Miller.) His works after his death, exerted a very great influence upon the surgery of the day. His immediate successor Pigrain is said not to have been his equal, and attempting to follow in his footsteps, even obscured the writings of Pare by his commentaries. Pare's fame however continued to increase, and age after age did that justice to his great abilities which the envious of his own times churlishly refused to accede to them. His works were first published in 1535, and afterwards more fully in 1582.

Dionis, Belloste, Saviard, Morel and a few others were the surgeons in France during the seventeenth century. Of these Dionis is the most distinguished, not only in surgery, but obstetricy. In Germany we find the names of Hildanus, a most successful practitioner, and author of a surgical treatise, dated 1641: Scultetus, author of the works, called the Armamentarium Chirurgicum, 1653; and Purnam who was fond of using various instruments figured by Scultetus. Heister who was a professor in the University of Helmstaadt, wrote a work on surgery, which is still in great repute, having been translated into all the modern languages of Europe.

John Lewis Petit, whose name is so frequently quoted in surgical works, was born in Paris, on the 13th of March, 1674. A vivacity and acuteness of observation, uncommon at his period of life, were prominent characteristics in young Petit. A gentleman by the name of Littre, a celebrated anatomist who had apartments in the same house with the parents of Petit; conceived for the son of his friend a real affection, which induced him to take considerable interest in the child. The latter would frequently visit the dissecting room of Mr. Littre, and observe his mode of preparing the subjects for his lectures. "He was one day found in a granary, making the object of one of Mr. Littre's profound researches that of his amusement. He had privately conveyed away a rabbit, and thinking himself in no danger of being surprised, cut it up, with a view of imitating what he had seen performed. The young Petit had scarcely attained his seventh year, when he assisted regularly at the lectures of Mr. Littre." In less than two years, he was intrusted with the preparation of the ordinary dissections and afterwards had the whole care of the anatomical theatre. At the age of 16 years he was placed under the care of M. Castel a celebrated Surgeon, to study Surgery. He remained with him two years in order to obtain the title of pupil, which ad-

mitted him to medical lectures in the colleges. His whole time after this was taken up with the study of his profession—attending the public courses of lectures—walking the hospitals, and studying in the dissecting room.

"In 1582 he was employed to examine the state of the Military Hospitals of the Marshal de Luxemburg, who formed the seige of Namur, under Louis the fourteenth. He made this and the following campaigns, taking advantage of every opportunity to improve himself whilst he instructed others. He employed himself during the summer, in making demonstrations on the bones; as soon as the season permitted the use of bodies, he gave regular courses of lectures on anatomy. The voluntary labors he imposed on himself, his assiduity in the discharge of his duties, and a regular conduct which is soon taken notice of in armies, fixed on him the eyes of his superiors. At their recommendation, the magistrates of Lisle, granted him the use of a hall in the town-house, where he publicly demonstrated anatomy, during the winter of 1693. The following winter he did the same at Mons, and Cambray with the same protection of the magistrates."

In 1697 Petit was made Surgeon Assistant Major to the hospital of Tournay. He returned to Paris in 1696, and underwent the customary examination and was admitted Master in Surgery on the 27th of May, 1700.

For many years Petit delivered courses of lectures on Anatomy and Surgery in his own house, at which many of the most distinguished Physcians of Europe attended. These lectures ceased only when his other avocations had so increased as to make it impossible to continue his private lectures. He also lectured in the Colleges of Medicine for many years on his favorite subjects, Anatomy and Surgery. His reputation became so well established that very advantageous offers were made to him by several of the crowned

heads of Europe to remove to their kingdoms; among others, Ferdinand of Spain offered to himself and family permanent endowments, if he would remove there. He was however so attached to his native land, that no inducement was sufficient to cause him to leave it. He was connected with most of the learned and scientific societies of Europe.

In 1736, he published a very interesting memoir on aneurisms. In 1734 he printed a memoir on the nature and treatment of fistula lachrymalis. He also, as is well known invented the Tourniquet in ordinary use. He published a judicious memoir on the fraenum of the tongue, which was the fashion in those days, it seems to cut, not only too frequently, but to too great an extent, endangering the life of the child, by inducing so great a relaxation of this organ as to allow it to fall back into the throat, and choke him. His work on diseases of the bones is still admired among surgeons.

In 1731, the king of France named him director of the Royal Academy of Surgery, and subsequently he was made Provost. A post which he held until near the period of his death; which occurred on the 17th of April, 1750, at the ripe age of seventy-seven years.

On account of some rules connected with the profession, which demanded that applicants for Medical offices should be acquainted with the ancient languages, it is said that he studied the Latin language at 50 years of age. As we learn was the case with one of the Catos in reference to the Greek language. It also shows us that the imperfect opportunities of gaining a literary education, of his youth, were not surmounted until a late period in life. We would add in reference to this subject, that not only Petit but John Hunter and many other distinguished Surgeons have successfully cultivated the science and art of our profession, without a classical education; and have enroled their names on the highest pinnacles of fame; nevertheless, all will acknowledge that any modern

student who neglects this branch of his education, labors under disadvantages which will last as long as he lives. John Hunter thanked God that he had not studied Latin, obtained the degree of M D., and become a gentleman; for, said he, I should have been always occupied with the frivolous business of riding about, and otherwise wasting my time. Yet John Hunter loses much of his well earned reputation, for the want of good language in which to express his novel and original ideas. For it must be remembered that all science coins its new words, to express its advancement, from the ancient languages; which are to us what the ancient language of the Priests of Egypt, were to the generations which followed.

We proceed to speak of some of the discoveries, anatomical and other, which took place during this century, together with short notices of the discoverers.

The first great discovery which we will notice, is that of the lacteals, made by Gaspard Aselli or Asellius, a native of Cremona, who was a distinguished professor in Paris. Aselli made this discovery, which was an important prelude to that of the circulation of the blood, in the year 1622. It occurred on opening a dog, shortly after a meal, when he saw the lacteals filled with the peculiar white fluid denominated chyle. This had been newly absorbed from the internal surfaces of the intestines. He was mistaken, however, as to their course, and described them as passing from the intestines to the liver, thus confounding them with the lymphatics of that organ. It is very true, and Aselli admits the fact, that the lymphatics had been mentioned by the ancients, but their statements were very vauge, and no modern anatomists having anticipated him in their discovery, he may with propriety be entitled to that credit. Caspar Hoffman, it is said did not believe in their existence, and Harvey thought they were only lymph-bearing vessels. Aselli also mistook the mesenteric glands for

the pancreas, and announced them as a new discovery, which complicated the matter still more. This subject was made clear about a quarter of a century later by the discovery or rediscovery of the Thoracic duct by Nicolas Pequet, together with its connection with the lacteals. Aselli supposed that the lacteals terminated in the liver, but Pequet after whose name the duct has since been designated, first fairly and clearly proved the connection of the lacteals with it, and its connection with the heart.

Eustachius, it is true, had nearly a century before, (1563,) discovered the thoracic duct, but he did not understand its nature or importance. So that although the praise of having known the existence of the thoracic duct must be indisputably given to Eustachius, as that of having noticed the valves of the veins belongs to Fabricius; the still greater praise of supplying that link without which the remaining portions of the chain were useless, and connecting the discovery of Asellius with that of Harvey, by demonstrating the functions of the thoracic duct, belongs as exclusively and indisputably to Pecquet, as the completion of the deficient link, which neither Servetus nor Columbus, Caesalpinus nor Fabricius, had been able to accomplish, was the work of the immortal Harvey. The question as to the identity of the lacteals and the lymphatics was not decided until the days of the Hunters. Six years after the discovery of the lacteals, Harvey announced in 1628, in a work on the subject, the discovery of the circulation of the blood. The whole matter was subjected to the rigid tests of experiment, and induction. So simple and so plain are his demonstrations, that it is impossible to resist the admission of the grand conclusion. It is a curious fact, however, that Plato in his Timæus seems actually to have announced this important fact centuries before the time of Harvey. His words as quoted by Hamilton are as follows: "But they (the Gods,) established the heart, which is both the fountain of

the veins and the blood, which is vehemently impelled through all the members of the body *in a circular progression.*" Plato was learned in the mysteries and science of the Egyptians. Can it be that this knowledge was once possessed, and, as has been the case with many other things, lost to mankind, until the distinguished Englishman rediscovered it? My friend, Dr. Samuel George Morton, who is the author of a work on anatomy, sent me this or a similar quotation from the Timæus of Plato, while I was writing an introductory lecture last year. The capsule of Glisson was first accurately described by Dr. Francis Glisson, Professor of Physic at Cambridge, in 1654. It had been seen by Pecquet and Walaeus before, but Glisson first described it with accuracy.

Thomas Wharton published a work in 1656, entitled *Adenographia*, in which he describes the excretory duct of the parotid gland, and hence, by some denominated the duct of Wharton. To Nicholas Steno, who was a Dane, however, is due the credit of first discovering this duct. In 1657, Nathaniel Highmore published a work on anatomy, and described what Casserius some time before him had denominated the *Antrum Genae*, which has since, by English Anatomists and others, been called the *Antrum Highmorianum.*

The cortical portion of the brain was first proved to be glandular, by Malpighi, and, indeed the ultimate structure of many of the glands and other organs, was, perhaps, as fully demonstrated by this celebrated anatomist and microscopical observer, as it has by any of the many who have followed him in this path of investigation. The injected preparations of Malpighi, fragments of which may yet be seen in some of the Museums of Europe, were equalled or excelled only by those of that distinguished anatomist, Frederick Ruysch. So perfect were the injections of Ruysch, that the subject retained all the freshness and pliancy of youth and health. He published his trea-

tise on the lacteals and lymphatics in 1665. His museum is said to have been the most magnificent ever possessed by a private individual. "Among the parts that he examined with the greatest minuteness, was the pulmonary circulation, (in which he claimed the discovery of the bronchial artery,) the structure of the brain, of the ear, and of the lymphatic and glandular system. In 1685, Ruysch was appointed Professor of Physic, which appointment he retained with honor and reputation till 1728, when he had the misfortune to fracture his thigh by a fall. He also held the office of superintendent of midwives, in which capacity he introduced many beneficial regulations, and many improvements in that department, especially the abolition of the practice of speedily extracting the placenta, which he believed to be expelled by means of an orbicular muscle, at the fundus uteri. His publications, which were numerous, were chiefly anatomical, and many of them controversial. He enjoyed good health till he had attained his ninety-third year, when a fever closed his labors in 1731."

Henry Meibomius, who was born at Lubec, in June, 1630, educated in the University of Angers, and wrote several valuable anatomical and other medical works, published in 1666, a letter to Langelot, "*de vasis palpeprarum novis*," in which he describes some vessels of the eye-lids which he had recently discovered. Portions of the eye-lids, particularly small follicles on their margins, still retain his name.

In 1669, Borelli published an important work upon the eye, and in the following year, the beginning of his great physiological work, "De motu Animalium," which was not entirely published until after his death. In this work he attempted to explain all the animal functions and motions upon mechanical principles, and may hence, inasmuch as his views were defended for many years after his death, be considered as the founder of the mechanical philosophy in medicine. He supposed the muscular fibres to be vesicular, and

that by the swelling of these vesicles, consequent to the introduction of the nerve fluid, which fermented with the blood, the muscular fibres shortened, and produced as a consequence, muscular contraction. He measured the collective force of a muscle by multiplying that of the individual fibres. The power of the heart, in the act of propelling the blood, is, according to him, one hundred and eighty thousand pounds. These calculations have, however, nearly all of them, been disproved, and are now entirely obsolete.

Regnier De Graaf, the discoverer or first describer of the ovarian vesicles, was the son of an architect, residing at Schoonhove, in Holland. He was born July 30th, 1641, and studied at Leyden and Angers. His first dissertation was on the pancreated juice, and gained him great reputation, having been written at the age of twenty-two years. A few years afterwards he published three dissertations, on the organs of generation in both sexes, which involved him in a discussion with his old pupil, Swammerdam. He died in 1673, at the early age of thirty-two, having written several works which were published in 1677, and 1705, in Leyden, and much esteemed by the medical world.

John Conrad Peyer, whose name is associated with certain glands in the intestines, was a native of Schaffhausen, and published a work called, "Exercitatio Anatomico Medica de Glandulis Intestinorum," in 1677.

William Cowper, an eminent surgeon of London, first published a large anatomical work in 1694, in which he described two new glands in the urethra, which have been named after him—*Cowper's Mucous Glands.* He also first gave a representation of the Thoracic duct, as it is found in the human subject, preceding anatomists having drawn their descriptions from the dissection of animals.

In this century flourished in Italy the renowned Tagliacotius or Tagliacozzi, who practiced at Bologna

and several other cities. He became early distinguished for his treatment of various mutilations which were then common. These mutilations were frequently the penalty, by law, of some offence or crime, and consisted in the excision of the nose, ears and other portions of the body. The common practice, also, at that time of fighting duels with swords, produced a large number of mutilations. Taking advantage of the facility of uniting parts by the first intention, Teliacotius was enabled to cure these deformities, by re-applying the excised parts or transferring tissues from other parts to the seat of mutilation. He, it is said, even took pieces from the bodies of other persons, particularly slaves, and transplanted them. His reputation became very great in this practice, and he is frequently referred to by writers of his day and since. Butler, in his Hudibras, has noticed the practice, but in a way to preclude my quoting the lines.

This branch of Surgery has been revived during the present century, and is denominated Plastic Surgery; and the operations called those of Anaplasty or Autoplasty; from αυτος himself and πλασσειν to create.

A statue of this distinguished Surgeon was erected in Bologna, in which he is represented in a standing posture, holding a nose in his right hand, emblematic of the peculiar talent which "distinguished him."

Cæsar Magnatus, was another distinguished Surgeon of this Century, who wrote largely on surgery and simplified very much, the treatment of wounds. By reference to what has already been said, it will be seen that this was the great distinction, between the surgeons of this period; namely, their modes of treating wounds and ulcers. The true principles of which were not demonstrated until the middle and latter part of the 18th century.

Marcus Aurelius Severinus, made himself a good reputation in Surgery and is frequently quoted by his successors. He was both a skilful and intrepid oper-

ator. In the latter part of the 16th and the beginning of the 17th centuries, the celebrated Fabricius ab Aquapendente, lived and flourished in Padua. He is known to us not only as the preceptor of Harvey, but the author of many important Anatomical and Surgical works. In the former, he has, according to my venerable friend Dr. Redman Cox, described many things in connection with the circulation which Harvey has appropriated to himself, giving his old master no credit for them. He was the most eminent Surgeon and Anatomist of his time. His Surgical works, it is said, have passed through no less than seventeen editions; and show him to have been not only perfectly acquainted with the Surgery of his predecessors and cotemporaries; but to have been an extensive improver of the art, himself. We are indebted to him for the modern trephine and for the tube introduced after tracheotony.

In England for the same period we have the names of Wiseman who was the Pare, of that country, William Clowes, who was a Military Surgeon and wrote on gun-shot wounds, Lowe a Scotchman, and author of a work on the art of Surgery, and James Young, who resided in Plymouth, and wrote in 1679. Harvey has already been noticed.

The true father of English Surgery, as Pare was the revivor of French, and Continental Surgery, was Wiseman. He was Serjeant-Surgeon to Charles II. and enjoyed a large practice during the whole period of the civil wars. His surgical writings, consist of eight treatises—and are well worthy perusal, by the modern student. He advocated primary amputation, after gun-shot wounds, a practice the utility of which, the ample experience of Larrey in the French armies during the latter part of the last, and the beginning of the present Century, has fully confirmed.

We thus close our account of the progress of Surgery with the end of the Seventeenth Century; and it

will be seen that the period under consideration was one full of interest to the Surgeon and Anatomist.—We learn from the consideration of the subject, first; how slowly, but yet how surely, our science has progressed. That a good writer and expounder of the Science of his day, is valuable though he add nothing to the general stock of our information. He is useful because he keeps up that chain which is essential to the advancement of knowledge—and indeed no man can write or teach his profession without imparting to his instructions, more or less of the character of his own mind. New views are thus promulgated which reacting upon other minds produced new and original thoughts, which tend to the elucidation of truths previously imperfectly understood.

Secondly. We should be encouraged to press on in our day and generation; ever attempting to add our mite to the general store house. We should be encouraged, with our present improved modes of investigation, to labor to extend the boundaries of our art.

All labor is said to be profitable.

Thirdly gentlemen, and lastly. I congratulate you upon the advancement our noble art has made, and upon the prospect before you in making further advances. This advancement is associated with wealth and honor. Most of the distinguished individuals whose names I have quoted to you, were the friends and counsellors of kings; and the powerful of their own times. True I have not given you instances of great wealth attained through our profession, nor do I think it desirable so to do—though there are many instances on record of Physicians and Surgeons becoming wealthy; yet I have named individuals whose fame was and is more durable than brass, or the gold of Golconda.

So little importance is the acquisition of wealth that the historian of medicine seldom notices it. The truth is gentlemen, great wealth has ever been detrimental to the true interests of medicine. The stimulus of ne-

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cessity appears to be absolutely necessary to the acquisition of fame and the amelioration of the condition of mankind, temporal or spiritual. Were it proper—I could name several instances where the sudden acquisition of wealth has entirely destroyed and that for life, the usefulness of men of first-rate talent. Health, Peace and competence are the chief things to be desired by a physician—with these he may not only carve for himself a name on the annals of fame and thus live in future and remote ages, but when the stern messenger that comes to all, shall visit him, he will be able to approach his grave, like one

> "Who wraps the drapery of his couch about him,
> And lies down to pleasant dreams."

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